

REMARKS

As a preliminary matter, Applicants respectfully request entry of this after final amendment because no new issues are being raised by the proposed claim amendments. Applicants are proposing amendments to Claims 5 and 6 to correct the dependencies of these claims. More specifically, Claims 5 and 6 originally depended from dependent Claim 4 (which in turn depended from independent Claim 1), but when the subject matter of dependent Claim 4 was cancelled and the subject matter thereof incorporated into independent Claim 1, Applicants inadvertently neglected to change the dependencies of Claims 5 and 6 to refer to Claim 1. Accordingly, Applicants are correcting that error with this amendment. Since no new issues are raised by the proposed claim amendments, Applicants respectfully submit that entry of this after-final amendment is proper, and such entry is respectfully requested.

As an additional preliminary matter, Applicants respectfully request an indication of the consideration of the information Disclosure Statement (IDS) filed on October 30, 2003. Additionally, with respect to the October 30, 2003 IDS, Applicants would like to correct an error on that document with regard to the certification under 37 C.F.R. §1.97(e). Specifically, it was a typographical error to have placed an “X” in the box near the paragraph starting with the language “Applicant(s) hereby certify that no item of information cited . . .”.

Claims 1 and 5-9 stand rejected under 35 U.S.C. § 103 as being unpatentable over United States Patent No. 6,545,955 to Iwata et al. in view of United States Patent No.

6,492,035 to Yamaguchi et al. Applicants respectfully traverse this rejection because: (1) one of ordinary skill in the art would not have modified the Iwata et al. reference as suggested by the Examiner; and (2) even if the references were combined in the manner suggested by the Examiner, the resulting medium still fails to include first and second reproducing layers “having perpendicular magnetization,” as defined in independent Claim 1.

Applicants respectfully submit that one of ordinary skill in the art would not have modified the Iwata et al. reference in the manner suggested by the Examiner. As correctly acknowledged by the Examiner, the Iwata et al. reference does not disclose or suggest first and second reproducing layers that are formed as an integral layer. Instead, the Iwata et al. reference teaches the use of first and second reproducing layers separated by a first in-plane magnetic layer. In order to remedy this deficiency, the Examiner relied upon the Yamaguchi et al. reference for a teaching of an integral reproducing layer formed of first and second reproducing layers.

However, Applicants respectfully submit that one of ordinary skill in the art would not have been motivated to remove the first in-plane magnetic layer from between the two reproducing layers of the Iwata et al. reference because doing so goes against the main teaching of the Iwata et al. reference. In the Background section of the Iwata et al. reference, Iwata et al. describe the prior art the medium of Figure 18, which includes a reproduction layer 201 and a supplementary reproduction layer 203 which are in direct contact with each other. Iwata et al. continues by describing the problems associated with this configuration of two reproduction layers in direct contact with each other, such as

difficulties in improving reproduction resolution due to the gradual transition from in-plane to perpendicular magnetization (*see* col. 2, lines 53-57); effective reduction in the transition temperature and reduced magnetic domain in the supplementary reproduction layer (*see* col. 2, line 58 through col. 3, line 14); and difficulty in duplicating the magnetization to the supplementary reproduction layer, as well as difficulty in reproducing and expanding the magnetization to the reproducing layer, which caused lowered reproduction signal strength and reduced signal quality (*see* col. 3, lines 15-26).

In the Iwata et al. reference, a portion of the solution devised by Iwata et al. to the problems outlined above is to add an in-plane magnetized layer between the reproduction layer and the supplementary reproduction layer, such as in the in-plane magnetized layer 2 positioned between reproduction layers 1 and 3 as shown in Figure 2. More specifically, as described in col. 10, line 49 through col. 11, line 24, the in-plane magnetized layer 2 prevents layers 1 and 3 from coupling with each other, which thereby prevents the transition temperature of layer 1 from rising and the transition temperature of layer 3 from falling. This in-plane magnetized layer 2 (as well as a second in-plane magnetized layer 4) enable the supplementary reproduction layer 3 to abruptly change from in-plane to perpendicular magnetization when heated above the transition temperature, which improves on reproduction resolution of the supplementary reproduction layer 3 and enables stable expansion and duplication of the magnetic domains.

Thus, as one of the main teachings of the Iwata et al. reference is to add an in-plane magnetization layer between the reproduction layer and the supplementary

reproduction layer, one of ordinary skill in the art would not have been motivated to remove this layer so that the two reproducing layers formed “an integral layer,” as defined in Claim 1. Accordingly, because all of the features of independent Claim 1 do not result from the proposed combination of Iwata et al and Yamaguchi et al., Applicants respectfully request the withdrawal of this §103 rejection of independent Claim 1 and associated dependent Claims 5-9 for at least this reason.

Additionally, Applicants also respectfully submit that the proposed combination fails to include all of the features of the present invention. In particular, the Iwata et al. reference fails to disclose or suggest first and second reproducing layers “having perpendicular magnetization[s]” as defined in independent Claim 1. As disclosed in column 9, lines 1-4 and 8-12, reproduction layers 1 and 3 of the Iwata et al. reference exhibit in-plane magnetization at room temperature, and only change to perpendicular magnetization at temperatures above their transition temperatures. Thus, one of ordinary skill in the art would not consider layers 1 and 3 of Iwata et al. to have “perpendicular magnetizations” as that term is generally used in the art. Further, the Examiner has not provided any motivation as to why one of ordinary skill in the art would modify the reproduction layers of Iwata et al. so that they have perpendicular magnetizations, as defined in Claim 1. Accordingly, for this reason also, Applicants respectfully request the withdrawal of this §103 rejection of independent Claim 1 and associated dependent Claims 5-9 under the combination of Iwata et al. and Yamaguchi et al.

Claim 2 stands rejected under 35 U.S.C. § 103 as being unpatentable over Iwata et al. in view of Yamaguchi et al. and further in view of United States Patent No. 6,020,079 to Matsumoto et al. Applicants respectfully traverse this rejection.

Claim 2 depends from independent Claim 1, and therefore includes all of the features of Claim 1, plus additional features. Accordingly, Applicants respectfully request that the §103 rejection of dependent Claim 2 under the combination of Iwata et al., Yamaguchi et al., and Matsumoto et al. be withdrawn for at least the same reasons advanced above in the remarks directed to independent Claim 1, and also because the Matsumoto et al. reference does not remedy the deficiencies noted above, nor was it relied upon by the Examiner as such.

Claim 3 stands rejected under 35 U.S.C. § 103 as being unpatentable over Iwata et al. in view of Yamaguchi et al. and further in view of United States Patent No. 6,356,516 to Tamanoi et al. Applicants respectfully traverse this rejection.

Claim 3 depends from independent Claim 1, and therefore includes all of the features of Claim 1, plus additional features. Accordingly, Applicants respectfully request that the §103 rejection of dependent Claim 3 under the combination of Iwata et al., Yamaguchi et al., and Tamanoi et al. be withdrawn for at least the same reasons advanced above in the remarks directed to independent Claim 1, and also because the Tamanoi et al. reference does not remedy the deficiencies noted above, nor was it relied upon by the Examiner as such.

Claims 1 and 5-9 stand rejected under 35 U.S.C. § 103 as being unpatentable over United States Patent No. 6,125,083 to Nishimura et al. in view of Yamaguchi et al. Applicants respectfully traverse this rejection.

Applicants respectfully submit that the cited references fail to disclose or suggest all of the claimed features of the present invention. More specifically, neither Nishimura et al. nor Yamaguchi et al. disclose or suggest a magneto-optical recording medium that includes, *inter alia*, first and second reproducing layers of “slightly different” compositions, with each including Gd, “wherein a difference in Gd composition between said first reproducing layer and said second reproducing layer is in the range of 0.5 to 3.0at%,” as defined in independent Claim 1.

The Examiner cited to Examples 33-26 of the Nishimura et al. reference as a basis of his argument that it would have been obvious to have created a medium with first and second reproducing layers where the difference in Gd composition between these two layers is in the range of 0.5 to 3.0at%. Applicants respectfully disagree with the Examiner’s assertion. Initially, the difference in Gd composition between the reproduction layer and the intermediate layer of Nishimura et al. is not even close to the claimed range of 0.5 to 3.0at%. More specifically, as shown in Table 8, the smallest difference in Gd composition is 7at% (where x is 32 and p is 25), which is more than double the largest at% difference defined in independent Claim 1.

Additionally, the slight difference in composition between the first and second reproducing layers in which there is only a 0.5 to 3.0at% difference in the amount of Gd

between these two layers is an essential feature in the present invention for suppressing crosstalk. For example, as set for in the present specification on page 28, lines 5-14, when the Gd composition of the second reproducing layer 18b is deviated from the Gd composition of the first reproducing layer 18a by even 2at% or more, crosstalk rapidly increases. However, in Nishimura et al., the lowest difference value is 7at%, which is not even close to the 2at% value where Applicants noticed rapidly increasing crosstalk. Thus, Applicants respectfully submit that it would not have been a matter of routine optimization to vary the amount of Gd in the Nishimura et al. reference. Further, Applicants respectfully submit that it would not have been a matter of routine optimization to vary the amount of Gd by the addition of other elements. Applicants respectfully submit that one of ordinary skill in the art would not have been motivated to have the additional elements vary the atomic percentages to the amounts defined in the claimed invention as a matter of routine optimization, nor would the ordinary worker have been motivated to vary the atomic percentages in order to improve the C.N. ratio or to reduce crosstalk. Accordingly, Applicants, for the reasons discussed above, respectfully request the withdrawal of this §103 rejection of independent Claim 1 and associated dependent Claims 5-9.

Claim 2 stands rejected under 35 U.S.C. § 103 as being unpatentable over Nishimura et al. in view of Yamaguchi et al. and further in view of Matsumoto et al. Applicants respectfully traverse this rejection.

Claim 2 depends from independent Claim 1, and therefore includes all of the features of Claim 1, plus additional features. Accordingly, Applicants respectfully request

that the §103 rejection of dependent Claim 2 under the combination of Nishimura et al., Yamaguchi et al., and Matsumoto et al. be withdrawn for at least the same reasons advanced above in the remarks directed to independent Claim 1, and also because the Matsumoto et al. reference does not remedy the deficiencies noted above, nor was it relied upon by the Examiner as such.

Claim 3 stands rejected under 35 U.S.C. § 103 as being unpatentable over Nishimura et al. in view of Yamaguchi et al. and further in view of Tamanoi et al. Applicants respectfully traverse this rejection.

Claim 3 depends from independent Claim 1, and therefore includes all of the features of Claim 1, plus additional features. Accordingly, Applicants respectfully request that the §103 rejection of dependent Claim 3 under the combination of Nishimura et al., Yamaguchi et al., and Tamanoi et al. be withdrawn for at least the same reasons advanced above in the remarks directed to independent Claim 1, and also because the Tamanoi et al. reference does not remedy the deficiencies noted above, nor was it relied upon by the Examiner as such.

Claims 1 and 5-9 stand rejected under 35 U.S.C. § 103 as being unpatentable over United States Patent No. 6,534,162 to Hirokane et al. in view of Yamaguchi et al. Applicants respectfully traverse this rejection.

Applicants respectfully submit that the proposed combination fails to include all of the features of the present invention. In particular, the Hirokane et al. reference fails to disclose or suggest first and second reproducing layers “having perpendicular

magnetization[s]” as defined in independent Claim 1. As disclosed in column 4, lines 35-39, reproduction layer 1 of the Hirokane et al. reference is described as exhibiting in-plane magnetization at room temperature, and only changing to perpendicular magnetization at temperatures not lower than a critical temperature. Thus, one of ordinary skill in the art would not consider layer 1 of the Hirokane et al. reference to have “perpendicular magnetization” as that term is generally used in the art. Further, the Examiner has not provided any motivation as to why one of ordinary skill in the art would modify the reproduction layer of Hirokane et al. so that it does have perpendicular magnetization, as defined in Claim 1. Accordingly, for this reason also, Applicants respectfully request the withdrawal of this §103 rejection of independent Claim 1 and associated dependent Claims 5-9 under the combination of Hirokane et al. and Yamaguchi et al.

Claim 2 stands rejected under 35 U.S.C. § 103 as being unpatentable over Hirokane et al. in view of Yamaguchi et al. and further in view of Matsumoto et al. Applicants respectfully traverse this rejection.

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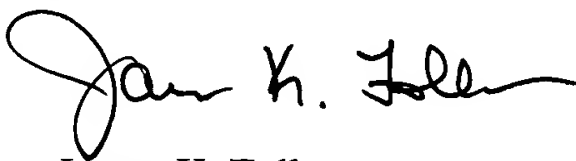
Claim 3 stands rejected under 35 U.S.C. § 103 as being unpatentable over Hirokane et al. in view of Yamaguchi et al. and further in view of Tamanoi et al. Applicants respectfully traverse this rejection.

Claim 3 depends from independent Claim 1, and therefore includes all of the features of Claim 1, plus additional features. Accordingly, Applicants respectfully request that the §103 rejection of dependent Claim 3 under the combination of Hirokane et al., Yamaguchi et al., and Tamanoi et al. be withdrawn for at least the same reasons advanced above in the remarks directed to independent Claim 1, and also because the Tamanoi et al. reference fails to remedy the deficiencies noted above, nor was it relied upon by the Examiner as such.

For all of the above reasons, Applicants request reconsideration and allowance of the claimed invention. Should the Examiner be of the opinion that a telephone conference would aid in the prosecution of the application, or that outstanding issues exist, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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